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10/559,404	09/25/2006	Guy M. Besson	19.106011	5597

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EXAMINER
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NGUYEN, HIEN NGOC

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## DETAILED ACTION

### *Priority*

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in the United States on 06/06/2003. It is noted, however, that applicant has not filed a certified copy of the 10/455,878 application as required by 35 U.S.C. 119(b).

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 29-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Nields et al. (U.S. 6,102,866).

Nields discloses a system comprising:

- a breast immobilizing device (see abstract, col. 3, lines 25-40 and col. 5, lines 44-52).
- an x-ray source for producing a beam of x-rays that selectively rotating about a selected pivot axis, the beam irradiating a patient's breast

positioned in the immobilizing device, the irradiating being along a multiplicity of different directions of the beam relative to the breast and taking, place while the breast remains immobilized (see col. 5, lines 44-52).

- an imager for detecting x-rays within the beam that have passed through the patient's breast to generate x-ray image, data describing a multiplicity of initial x-ray images related to multiplicity of directions along which the x-ray beam irradiates the breast (see col.5, lines 44-52 and lines 35-40).
- an ultrasound system for acquiring a pre-scan ultrasound image data of the breast, wherein at least one of an x-ray source exposure parameter or an x-ray source position is controllable in response to the pre-scan ultrasound image data (see Fig.1, element 100 is the ultrasound system for acquiring ultrasound images). Examiner interprets pre-scan ultrasound image data to be ultrasound image data acquire from an ultrasound scan before an x-ray scan. The system has a structure that is capable of acquiring a pre-scan ultrasound image data and adjust x-ray according to the pre-scan ultrasound image data.
- the ultrasound system includes at least one ultrasound transducer that both emits and receives ultrasound signals and is at one side of the breast (see col. 3, lines 30-36 and Fig. 1, element 100). It is inherent that the transducer both emits and receives ultrasound signals in order to form an ultrasound image.

- ultrasound system includes at least two ultrasound transducers that are at opposite sides of the breast (see col. 11, lines 1-5). Nields discloses plurality of transducers. The system is capable of placing transducers at opposite sides of the breast.
- pivot axis is at a focal spot from which the x-ray beam emanates (see col. 5, lines 44-52).
- a processing system for processing the x-ray image data and the ultrasound image data and producing at least one processed x-ray image of the breast suitable for display and at least one processed ultrasound image suitable for display in which the processed x-ray image is a projection image (see col. 2, lines 1-5 and claims 5 and 6). The processor is processing x-ray and ultrasound image of the breast for display
- a display system for concurrently displaying the processed x-ray image and the processed ultrasound image in which the concurrently displayed processed x-ray and ultrasound images are at different orientations relative to the breast (see Fig. 6, elements 62a for x-ray and 62b for ultrasound, element 60 is the display and col. 8, lines 17-42).
- the image detector and ultrasound system are located in the same housing (see col. 3, lines 25-40, col. 9, lines 15-20 and Fig. 5). The ultrasound head cover by the housing transmit and receive (detect) ultrasound signals to form an ultrasound images therefore the image detector of the ultrasound must be located in the same housing. Examiner

interpret image detector as the signal receiving portion of the ultrasound system.

- the image detector and ultrasound system are selectably connectable (see col. 3, lines 25-40 and Fig. 5). The image detect is within the ultrasound head therefore it must be connected to the ultrasound system.
- a rotating x-ray source and a detector positioned to receive x-rays from the rotating source during an x-ray scan of the patient's breast (see col. 5, lines 44-52 and col. 6, lines 13-42).
- a driving mechanism, coupled to both the x-ray imaging system and the ultrasound imaging system for controlling movement of the x-ray imaging system and the ultrasound imaging system during x-ray image and ultrasound image acquisition; it is inherent that the system has a driving mechanism because the system is rotating and the driving mechanism cause this rotation.
- the system discloses by Nields is capable of having the x-ray scan follows the pre-scan.

### ***Response to Arguments***

Applicant's argument filed 07/22/2010 has been fully considered but it is not persuasive. Applicant argues Nields does not teach the structural language in the claim "the feedback of information from the ultrasound acquisition for adjustment of x-ray imaging parameters". Applicant's argument is not persuasive because this is functional

language and not structure. The only structure in the claim is the ultrasound system and control x-ray source exposure parameter in response to the pre-scan ultrasound image data is a function of the system. Feedback structure such as sensor, etc. is not in the claim. Applicant need to clearly claim the structure and not the functional language. The system is capable of being controlled and adjusted the x-ray parameter in response to the pre-scan ultrasound image data (see col. 3, lines 30-36 and Fig. 1, element 100). The system is capable of performing these functions.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HIEN NGUYEN whose telephone number is (571)270-7031. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Chen can be reached on (571) 272-3672. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. N./  
Examiner, Art Unit 3777

/Tse Chen/  
Supervisory Patent Examiner, Art Unit 3777